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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Anna L. Buczak

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

SHEPARD, JUSTIN E

ART UNIT

PAPER NUMBER

2623

DATE MAILED: 07/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/029,830	Applicant(s) BUCZAK ET AL.	
	Examiner Justin E. Shepard	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments filed 6/15/06 have been fully considered but they are not persuasive.

Page 10, last paragraph:

The applicant argues that the neural network disclosed by Graves only teaches one fusion layer. Graves discloses that figure 8 shows that network 46 includes three groups of neurons arranged in layers. Each layer in the neural network narrows the selection down until it reaches a single recommendation. Each layer of the neural network is interpreted as being equivalent to a fusion layer. The rejection stands.

Page 11, third paragraph:

The applicant is arguing a limitation not found in the claims. This argument will not be considered.

Claims 1-3, 5-8, 14, 15, 17, 19, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Graves.

Referring to claim 1, Graves discloses a method for providing hierarchical decision fusion of recommender scores, said method comprising the steps of:

(a) providing a plurality of recommenders at a first level, said recommenders being grouped to at least one of a plurality of predetermined groups (column 8, lines 52-55);

(b) providing a predetermined number of first level fusion centers for receiving an output from each of said recommenders from at least one particular group (figure 8, lines going into part 48);

(c) outputting a decision by each one of said plurality of recommenders grouped in step (a) to a respective first level fusion center, wherein each decision provides a recommendation (figure 8, lines going from part 48 to 50);

(d) each respective first level fusion center performing a first fusing step of the decisions output in step (c) by said recommenders from said at least one particular group (figure 8, part 50);

(e) each respective first level fusion center outputting a first enhanced decision based on the fusion performed in step (d) (figure 8, lines going from part 50 to 52);

(f) providing a plurality of second level fusion centers for receiving the first enhanced decisions output from a group of said first level fusion centers (figure 8, part 52);

(g) each respective second level fusion center performing a second fusing step of the first enhanced decisions received from the group of said first level fusion centers (figure 8, part 52);

(h) each respective second level fusion center outputting a second enhanced decision (figure 8, part GRADE); and

(i) outputting to a user a finally enhanced decision chosen from the enhanced decisions in step (h) (column 2, lines 23-25).

Referring to claim 2, Graves discloses a method according to Claim 1, wherein the plurality of recommenders provided in step (a) have overlapping topics of interest (figure 3; Note: Each of the categories could describe features of the same television program or movie, and therefore are considered to have overlapping topics of interest.).

Referring to claim 3, Graves discloses a method according to Claim 2, wherein the user's profile contains a plurality of preferences previously recorded (column 8, lines 52-55).

Referring to claim 5, Graves discloses a method according to Claim 1, wherein the first fusing step recited in step (d) is performed by one of weighted average, voting, neural network (column 6, lines 24-26), and Dempster- Shaffer Evidential Reasoning.

Referring to claim 6, Graves discloses a method according to Claim 1, wherein the second fusing step recited in step (g) is performed by one of weighted average, voting, neural network (column 6, lines 24-26), and Dempster-Shaffer Evidential Reasoning.

Referring to claim 7, Graves discloses a method according to Claim 1, wherein step (h) further comprises (i) providing a plurality of third level fusion centers for receiving the second enhanced decisions from the second level of fusion centers, and

(ii) each of the plurality of third level fusion centers performing a third fusing step of a predetermined number of second enhanced decisions (column 6, lines 30-39).

Claim 8 is rejected on the same grounds as claim 7.

Referring to claim 14, Graves discloses a method according to Claim 11, wherein the finally enhanced step is output to the user via one of wire communication (figure 1, line going from part 17 to 20), wireless communication, fiber optics, LAN/WAN, and Internet.

Referring to claim 15, Graves discloses a system for hierarchical decision fusion of recommender scores, said system comprising:

- a central processing unit (figure 2, part 28a);
- a memory in communication with said central processing unit (figure 2, part 32a);
- a recommender module comprising fusion software for fusing recommendations of a predetermined number of groups (figure 1, part 17);
- means for outputting a recommendation to a user (column 2, lines 23-25);
- wherein said recommender module provides at least two levels of fusion (figure 8), wherein a plurality of recommendations are fused at a first level to provide a plurality of first enhanced decisions (figure 8, part 50), and said plurality of first enhanced decision are fused at a second level to provide a plurality of second enhanced decisions which are fewer in number than said first enhanced decisions (figure 8, part 52).

Claim 17 is rejected on the same grounds as claim 14.

Referring to claim 19, Graves discloses a system according to Claim 15, wherein said means for outputting a recommendation to a user includes a display (figure 1, part 22a).

Referring to claim 20, Graves discloses a system according to Claim 15, wherein said system includes means for storing a cookie on a user's storage device, said cookie containing an identifier of a user profile in said memory (column 8, lines 52-55).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graves in view of Gill.

Referring to claim 4, Graves does not disclose a method according to Claim 3, wherein the previously recorded preferences comprise one of a viewing history, listening history, and literary history.

Gill discloses a method according to Claim 3, wherein the previously recorded preferences comprise one of a viewing history (figure 11, box 195), listening history, and literary history.

At the time of the invention it would have been obvious for one of ordinary skill in the art to add viewing history to the items considered, as taught by Gill, in the program selecting method disclosed by Graves. The motivation would have been to provide more information to the neural network, therefore making the output more accurate and more useful to the user.

Claim 16 is rejected on the same grounds as claim 4.

Claims 9-11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graves in view of Yeh.

Referring to claim 9, Graves does not disclose a method according to Claim 7, wherein step (h) further comprises (iii) providing a single  $n$ th level fusion center,  $n$  being an integer greater than 3, said  $n$ th level fusion center receiving decisions output from said second level of fusion centers; and (iv) providing an  $n$ th fusing step from the second enhanced decisions.

Yeh discloses a method according to Claim 7, wherein step (h) further comprises (iii) providing a single  $n$ th level fusion center,  $n$  being an integer greater than 3, said  $n$ th level fusion center receiving decisions output from said second level of fusion centers; and (iv) providing an  $n$ th fusing step from the second enhanced decisions (figure 8).



At the time of the invention it would have been obvious for one of ordinary skill in the art to add hidden levels to the neural network, as taught by Yeh. The motivation would have been to allow the process to be more accurate.

Claim 10 is rejected on the same grounds as claim 9.

Referring to claim 11, Graves does not disclose a method according to Claim 9, wherein the nth level of fusion centers is a fourth level.

Yeh discloses a method according to Claim 9, wherein the nth level of fusion centers is a fourth level (figure 8, column 11, lines 26-28).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add hidden levels to the neural network, as taught by Yeh. The motivation would have been to allow the process to be more accurate.

Referring to claim 13, Graves does not disclose a method according to Claim 11, wherein the nth fusion step is performed by one of weighted average, voting, neural network, and Dempster-shaffer Evidential Reasoning.

Yeh discloses a method according to Claim 11, wherein the nth fusion step is performed by one of weighted average, voting, neural network (figure 8, column 11, lines 26-28), and Dempster-shaffer Evidential Reasoning.

At the time of the invention it would have been obvious for one of ordinary skill in the art to add hidden levels to the neural network, as taught by Yeh. The motivation would have been to allow the process to be more accurate.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graves in view of Inoue.

Referring to claim 12, Graves does not disclose a method according to Claim 8, further comprising providing a single  $n$ th level fusion center,  $n$  being an integer greater than 4, said  $n$ th level fusion center receiving decisions from a plurality of  $n-1$  level fusion centers, wherein said  $n-1$  level fusion centers being a higher level than the third level of fusion centers.

Inoue discloses a method according to Claim 8, further comprising providing a single  $n$ th level fusion center,  $n$  being an integer greater than 4, said  $n$ th level fusion center receiving decisions from a plurality of  $n-1$  level fusion centers, wherein said  $n-1$  level fusion centers being a higher level than the third level of fusion centers (figure 5).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add hidden levels to the neural network, as taught by Inoue. The motivation would have been to allow the process to be more accurate.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graves in view of Yuen.

Referring to claim 18, Graves does not disclose a system according to Claim 15, wherein memory comprises a network server.

Yuen discloses a system according to Claim 15, wherein memory comprises a network server (figure 11, part 350).

At the time of the invention it would have been obvious for one of ordinary skill in the art to move the neural network to a network server, as taught by Yuen. The motivation would have been to enable the user set top boxes to be simpler by doing the calculations on the server.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graves in view of Kim.

Referring to claim 21, Graves does not disclose a system according to Claim 19, wherein the display resides in a remote control.

Kim discloses a system according to Claim 19, wherein the display resides in a remote control (paragraph 46, lines 1-3).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add the remote viewer, taught by Kim, to the system disclosed by Graves. The motivation would have been to allow the user to view the recommendations without interrupting the display of video on the television.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin E. Shepard whose telephone number is (571) 272-5967. The examiner can normally be reached on 7:30-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Grant can be reached on (571) 272-7294. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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